

REMARKS

Claims 1, 3, 14, 15, 22, 26, 27, 30, 33, 37, 43, 45, and 51 have been amended, and claim 29 has been cancelled. Thus, claims 1-28 and 30-53 are pending in the present application. The claim amendments are supported by the specification and drawings as originally filed, with no new matter being added. Accordingly, favorable reconsideration of the pending claims is respectfully requested.

Claims 3, 14, 15, 26, 27, 30, 37, and 45 have been amended to correct typographical errors, for clarity, or to correct claim dependencies, and not for reasons related to patentability. The specification has been amended to correct typographical errors.

1. Rejections Under 35 U.S.C. § 102

Claims 1-5, 8-19, 22-30, 33-37, 40-45, and 48-53 have been rejected under 35 U.S.C. § 102(a or e) as being anticipated by U.S. Patent No. 6,334,856 B1 to Allen et al. (hereafter "*Allen*"). Applicants respectfully traverse.

Claim 1 has been amended to recite that "the microneedles are located on the major surface of the substrate such that the microneedles extend in a direction substantially parallel to the major surface." Independent claim 51 has been amended to recite a similar limitation. Support for this limitation can be found in Figure 1 of the present application, where microneedles 16 are located on major surface 14 of substrate 12 such that microneedles 16 extend in a direction substantially parallel to major surface 14.

In contrast, *Allen* discloses that microneedles 12 protrude from a major surface of substrate 11 so that microneedles 12 are perpendicular to the major surface of substrate 11, as shown in Figures 1A and 1B. There is no teaching or suggestion in *Allen* that the microneedles

thereof could be formed such that they are parallel to the major surface of the substrate. Thus, claims 1 and 51, as well as the rejected dependent claims therefrom, are not anticipated by or obvious over *Allen*.

Independent claim 22 has been amended to recite “a first structural support member that interconnects the microneedles adjacent the proximal end of the microneedles” and “a second structural support member that interconnects the microneedles adjacent the distal end of the microneedles.” Support for these limitations can be found in Figures 2A and 2B of the present application, where a pair of structural support members 38 interconnect with microneedles 32 adjacent the proximal and distal ends of microneedles 32.

In contrast, *Allen* only discloses that microneedles 12 are attached to or integrally formed on a single substrate 11 (col. 4, lines, 35-38; Figs. 1A, 1B). There is no teaching or suggestion in *Allen* of first and second structural support members that interconnect the microneedles adjacent the proximal and distal ends of the microneedles. Hence, claim 22, as well as the rejected dependent claims therefrom, are not anticipated by or obvious over *Allen*.

Independent claim 33 recites a microneedle device comprising a “single” hollow non-silicon microneedle on a planar surface of a substrate. Independent claim 43 recites a microneedle device comprising a “single” hollow elongated shaft composed of a non-silicon material. Support for the recitations of a “single” hollow microneedle or elongated shaft can be found in Figure 3 and on page 6, lines 21-23 of the present application.

There is no teaching or suggestion in *Allen* of a “single” hollow microneedle or elongated shaft as recited in claims 33 and 43. Rather, *Allen* discloses only a plurality of microneedles 12 attached to or integrally formed on substrate 11 (col. 4, lines, 35-38; Figs. 1A, 1B). Thus, claims

33 and 43, as well as the rejected dependent claims therefrom, are not anticipated by or obvious over *Allen*.

Accordingly, for the foregoing reasons, Applicants respectfully request that the rejection of claims 1-5, 8-19, 22-30, 33-37, 40-45, and 48-53 under 35 U.S.C. § 102 be withdrawn.

2. Rejections Under 35 U.S.C. § 103

Claims 6-7, 20-21, 31-32, 38-39, and 46-47 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Allen*. Applicants respectfully traverse.

Claims 6-7 and 20-21 depend from claim 1, claims 31-32 depend from claim 22, claims 38-39 depend from claim 33, and claims 46-47 depend from claim 43. Each of these dependent claims include the respective limitations of the corresponding independent claim, and thus would not have been obvious over *Allen* for at least the reasons set forth previously with respect to the independent claims.

In addition, the Examiner admits that the limitations recited in claims 6-7, 20-21, 31-32, 38-39, and 46-47 are not disclosed in *Allen*, but asserts that the various features recited in these claims would have been obvious, even though the Examiner cites no additional prior art disclosing such features. Thus, Applicants respectfully submit that these recited features, such as a plurality of input and output ports, would not have been obvious in the context of microneedle technology.

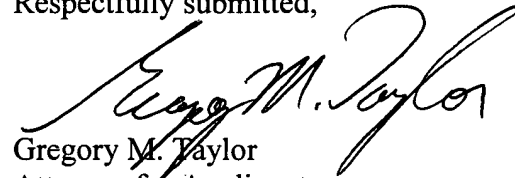
Applicants therefore respectfully request that the rejection of claims 6-7, 20-21, 31-32, 38-39, and 46-47 under 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

In view of the foregoing, Applicants respectfully request favorable reconsideration and allowance of the present claims. In the event there remains any impediment to allowance of the claims, which could be clarified in a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney.

Dated this 26th day August 2003.

Respectfully submitted,



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